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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,479	03/23/2004	Takao Tsuruoka	01064D/LH	3058

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EXAMINER

CUTLER, ALBERT H

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2622

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/807,479	Applicant(s) TSURUOKA ET AL.	
	Examiner Albert H. Cutler	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is responsive to application 10/807,479 filed on March 23, 2004. Claims 1-5 are pending in the application and have been examined by the examiner.

Information Disclosure Statement

2. The Information Disclosure Statements (IDS) mailed on March 23, 2004 and March 10, 2005 were received and have been considered by the examiner.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukushima et al.(US 5,715,377).

Consider claim 1, Fukushima et al. teach:

An image processing apparatus(see figures 1 and 17) for adjusting a gradation range(see figure 11) of an input image(101, figure 1), comprising:

photographing condition estimation means(103, 104, 105, and 106) for estimating a photographing condition of the input image(See column 12, line 53 through column 13, line 17. The photographing condition estimating means estimates if the input image was taken with back lighting and also estimates the people presence in the image.); and

gradation correction means(107, figure 1, see also figure 17) for performing gradation correction on the input image(101) on the basis of the photographing condition to adjust the gradation range to a predetermined gradation range(See column 13, lines 14-17, column 23, line 10 through column 25, line 30, figures 16A-16E. The gradation correction means generates a gradation correction curve to correct an input image based on the degree of backlighting, the degree of people in the image, and the degree of reliability.).

Consider claim 2, and as applied to claim 1 above, Fukushima et al. further teach:

the photographing condition estimation means(103, 104, 105, and 106) estimates a photographing condition on the basis of at least one piece of information of photometric information(The photographing condition estimating means estimates a photographing condition on the basis of brightness(i.e. photometric information), column 12, line 12 through column 13, line 17.).

Consider claim 5, and as applied to claim 1 above, Fukushima et al. further teach that the gradation correction means adjusts a gradation range by reducing the gradation range(See figure 14B, column 11, lines 15-30. The corrected gradation range indicated by curve 53 is clearly reduced when compared to the un-corrected gradation range shown in curve 52.).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushima et al. in view of Silverbrook(US 2004/0032524) in view of Haruki et al.(US 4,969,045).

Consider claim 3, and as applied to claim 1 above, Fukushima et al. further teach:

the photographing condition estimation means(103, 104, 105, and 106) comprises:

object distribution estimation means(104) for estimating a type of object distribution of an entire screen from the photometric information(See column 12, line 65 through column 13, line 2, column 19, line 10 through column 23, line 9. The distribution of people(i.e. a type of object) within an image(i.e. an entire screen) is estimated.); and

integration means(105) for integrally estimating a photographing condition by combining the photometry information(108) and the object distribution(i.e. people distribution, 109) estimated by the object distribution estimation means(104, see column 23, lines 10-55, figure 10. Four types of photographing conditions are estimated through the integration of the photometry information and object distribution information.).

Fukushima et al. also teach that the brightness information obtained can be used to determine the presence or absence of people within the image(column 12, line 53 through column 13, line 17).

However, Fukushima et al. do not explicitly teach of a focal position estimation means for estimating at least three types of focal positions including a scenic

photographing operation, a portraiture photographing operation, and a close-up photographing operation from the focal information.

Silverbrook is similar to Fukushima et al. in that Silverbrook teaches of a printer camera(paragraph 0028), which is analogous to the "video printer, etc." taught by Fukushima et al.(column 12, lines 55-56).

However, in addition to the teachings of Fukushima et al., Silverbrook teaches a focal position estimation means(5, figure 1) for estimating at least three types of focal positions(2, 3, and 4, figure 1) including a scenic photographing operation("landscape", 4), a portraiture photographing operation(3, a group portrait is shown), and a close-up photographing operation(2) from the focal information(paragraphs 0032-0033).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to include the focal point estimating means taught by Silverbrook in the photographing condition estimating means taught by Fukushima et al., and more specifically, have the output of the focal point estimating means taught by Silverbrook input into the integration means taught by Fukushima et al. for the benefit of aiding in the detection of people within the image(Silverbrook, paragraph 0033), and thereby improving the results of the people presence evaluation and photography condition detection taught by Fukushima et al.

However, the combination of Fukushima et al. and Silverbrook does not explicitly teach that object distribution estimation means estimates two further types of object distribution including a center focus, and a central portion.

Haruki et al. is similar to Fukushima et al. in that Haruki et al. teach of an image processor(see figure 1) which contains a gradation correction section(302, figure 1).

However, in addition to the teachings of Fukushima et al. and Silverbrook, Haruki et al. teach that an object distribution estimation means estimates two further types of object distribution(see figures 2 and 12) including a center focus(A1, figure 12), and a central portion(A2, figure 12, column 8, lines 5-46).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention of incorporate center focus distribution estimation and central portion distribution estimation as taught by Haruki et al. in the object distribution estimation means taught by the combination of Fukushima et al. and Silverbrook for the benefit of preventing an under- and/or over-exposed image due to the fact that images can be brighter or darker in the center when compared to the peripheral portion(Haruki et al., column 2, lines 19-37).

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushima et al.(US 5,715,377) in view of Ogata(US 5,848,181).

Consider claim 4, and as applied to claim 1 above, Fukushima et al. further teach:

the gradation correction means(see figure 17) comprises:

selection means(64A) for selecting a gradation table on the basis of the photographing condition(column 12, lines 12-50);

characteristic amount calculation means(106) for calculating a characteristic amount with respect to the input image(The characteristic amount calculating means(106) calculates a characteristic amount of reliability with respect to the input image, column 13, lines 8-17, column 23, lines 10-30.);

gradation conversion curve calculation means for calculating a gradation conversion curve on the basis of the gradation table(column 24, line 14 through column 25, line 30, especially column 25, lines 21-23. The original gradation table is modified based on a degree(i.e. a weighting) to generate a gradation correction table suited to the input image. See figure figures 14A and 14B.); and.

conversion means(6, figure 17) for performing gradation conversion by using the gradation conversion curve(column 24, lines 26-48).

However, Fukushima et al. do not explicitly teach that selection means selects a weight coefficient, a histogram generation means for generating a weighting histogram related to the characteristic amount on the basis of the arrangement of the weight coefficient, or that the gradation conversion curve is calculated on the basis of the histogram.

Ogata is similar to Fukushima et al. in that Ogata teaches of a gradation correction device(71, figure 9, figure 10) in an image processor(column 1, lines 7-16).

However, in addition to the teachings of Fukushima et al., Ogata teaches a selection means selects a weight coefficient(A weighting coefficient is selected from memory(15, figure 1) based on the luminance level of the input image, column 5, lines 35-42.), a histogram generation means(12 and 13, figure 1) for generating a weighting

Art Unit: 2622

histogram("Smoothed histogram", 13, figure 1, column 7, lines 4-8) related to a characteristic amount on the basis of the arrangement of the weight coefficient(The basis of the weighting coefficient is Y_d (the digital luminance signal). This is the same basis used to calculate the histogram(see figure 1). Therefore, the histogram is generated on the basis of the arrangement of the weighting coefficient.), and that the gradation conversion curve is calculated on the basis of the histogram(The histogram generated in the weighted histogram generating means(13, figure 1) is used to generate a coefficient representative of image characteristics in coefficient calculator(14, figure 1), and this coefficient is used to determine which correction coefficient is chosen from the coefficient memory(15, figure 1, column 5, lines 23-42). The gradation correction unit(71, figure 9, figure 10) then uses this coefficient supplied from the uniform detecting apparatus(1, figure 1) to correct the gradation curve, column 14, line 28 through column 16, line 14.).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to have the selection means taught by Fukushima et al. select a weighting coefficient as taught by Ogata, and generate a corrected histogram on the basis of that weighting coefficient in order to correct the gradation curve as taught by Ogata for the benefit of reducing noise components in the image and reducing the lengthy calculation time needed to generate the corrected gradation correction table as taught by Fukushima et al.(Ogata, column 1, line 50 through column 2, line 23).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert H. Cutler whose telephone number is (571)-270-1460. The examiner can normally be reached on Mon-Fri (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571)-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC



LIN YE
PRIMARY PATENT EXAMINER